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(21)Application number : 08-345246 (71)Applicant : NTN CORP
(22)Date of filing : 25.12.1996 (72)Inventor : OKAYAMA TOMOO
KAWAKITA MASAYUKI
MAEDA KIKUO

(54) ROLLING BEARING

(57)Abstract:

PROBLEM TO BE SOLVED: To use a rolling bearing having a forged surface without any reduction in its service life by making at least a bearing ring of bearing steel, performing carbonitriding and quenching/tempering, setting the surface hardness of the forged surface to a specified value and leaving much compressive stress and austenite.

SOLUTION: At least a bearing ring is molded using a bearing steel. After carbonitriding, quenching/tempering is performed and a forged surface is formed on its surface having a surface hardness set to Hv 700 or higher. then, compressive stress and austenite are much left. In this case, carbonitriding is executed for bearing steel having many non-metallic inclusions such that a cleanliness factor prescribed by JIS standard is 0.04% or higher. For bearing parts having such forged surfaces, their service lives are prolonged by performing carbonitriding under proper conditions, and levels equal to or higher than those of ground ones are provided. Thus, a rolling life can be prolonged and applied for a rolling bearing.

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000102692

エヌティエヌ株式会社

大阪府大阪市西区京町堀1丁目3番17号

(72) 発明者

岡山 智雄

三重県桑名市大字播磨2523-1

(72) 発明者

川北 雅之

三重県桑名市新地中1832-8

(72) 発明者

前田 喜久男

三重県員弁郡大安町平塚974

(74) 代理人

弁理士 深見 久郎 (外3名)

(54) 【発明の名称】 転がり軸受

(57) 【要約】

【課題】 黒皮肌のまま使用した場合、非金属介在物の量が多い場合あるいは鍛錬が不十分な場合でも、転がり寿命が低下しない転がり軸受を提供する。

【解決手段】 本発明の転がり軸受は、軌道輪および転動体からなっており、少なくとも軌道輪を軸受用鋼を用いて成形し、浸炭窒化処理後焼入・焼戻を行なって表層に形成される黒皮の表面硬度をHv700以上にし、そのまま転がり軸受として組立てたものである。